

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1-28. (Canceled)

29. (Currently amended) A crystal growth method for a III-V compound semiconductor including, as V group components, nitrogen and at least one of arsenic (As), phosphorous (P), and antimony (Sb), the method crystallizing nitrogen in a crystal supported by a substrate, comprising:

wherein a technique selected from among a molecular beam epitaxial (MBE) growth method, and a gas source molecular beam epitaxial (GS-MBE) growth method is used,

supplying aluminum and ammonium (NH₃) to a surface of the crystal so as to obtain a mixed crystal with a composition comprising nitrogen,

wherein addition or crystallization of the nitrogen from the ammonium which is supplied to the surface of the crystal into the surface of the crystal is accelerated by the aluminum supplied to the surface of the crystal, and

wherein the substrate is at a temperature of 450 degrees C or more and less than 640 degrees C when the aluminum and ammonium are supplied in growing the III-V compound semiconductor that includes, as V group components, nitrogen and at least one of arsenic (As), phosphorous (P), and antimony (Sb).

30-31. (Canceled)

32. (Currently amended) A crystal growth method according to claim 29, wherein ~~an amount of nitrogen added to a crystal, a nitrogen composition, an amount of nitrogen adsorbed on a crystal surface and an amount of an element in the crystal surface which is substituted with a nitrogen atom are~~ is controlled based on an amount or composition ratio of added aluminum.

33. (Currently amended) A crystal growth method according to claim 29, wherein aluminum is ~~added to or~~ crystallized in a restricted region, whereby only in the restricted region, nitrogen is ~~added or crystallized, a nitrogen atom is adsorbed, or an element in a crystal surface is substituted with a nitrogen atom.~~

34-37. (Canceled)

38. (Previously presented) A crystal growth method according to claim 29, wherein a surface of single crystal substrate is a crystal surface slanted from a (100) surface in a [011] direction (A direction) or a crystal face which is equivalent in a crystallographic sense to the slanted crystal surface.

39. (Previously presented) A crystal growth method according to claim 38, wherein the slant angle is within a range equal to 2° or more and equal to 25° or less.

40. (Previously presented) A crystal growth method according to claim 29, wherein one or more pairs of semiconductor layer A and semiconductor layer B are superposed, the semiconductor layer A including at least aluminum and nitrogen in its composition but not

including indium in its composition, and the semiconductor layer B including at least indium in its composition but not including nitrogen in its composition.

41. (Previously presented) A crystal growth method according to claim 40, wherein the thickness of each of the semiconductor layers A and B is from one to ten molecular layers.

42. (Previously presented) A crystal growth method according to claim 29, wherein crystal growth is performed by applying a source material to a substrate in a crystal growth room which is evacuated of air, and a mean free path of a molecule of each source material is longer than a distance between the substrate and a source of the source material.

43. (Previously presented) A crystal growth method according to claim 29, wherein ammonium in the form of gas is used as a nitrogen source material, and a source material of another element is obtained by evaporating a solid of a single element.

44. (Previously presented) A crystal growth method according to claim 29, wherein ammonium in an undecomposed state is supplied as a nitrogen source material and decomposed on a surface of the substrate.

45. (Previously presented) A crystal growth method according to claim 29, wherein crystal growth is performed over an underlying (sub-strate) crystal which does not include nitrogen as a principal element.

46. (Previously presented) A crystal growth method according to claim 45, wherein the underlying (substrate) crystal is selected from GaAs, InP, GaP, GaSb, and Si.

47. (Previously presented) A semiconductor device comprising a semiconductor layer formed by the crystal growth method of claim 29.

48. (Previously presented) A semiconductor device according to claim 47, wherein the semiconductor device is a light emitting element, and the semiconductor layer forms a light emitting layer thereof.

49. (Previously presented) A semiconductor device comprising a semiconductor layer formed by the crystal growth method of claim 38.

50. (Previously presented) A semiconductor device according to claim 49, wherein the semiconductor device is a light emitting element, and the semiconductor layer forms a light emitting layer thereof.

51. (Previously presented) A semiconductor device comprising a semiconductor layer formed by the crystal growth method of claim 40.

52. (Previously presented) A semiconductor device according to claim 51, wherein the semiconductor device is a light emitting element, and the semiconductor layer forms a light emitting layer thereof.

53. (Previously presented) An apparatus which uses the semiconductor device of claim 47.

54. (Previously presented) An apparatus which uses the semiconductor device of claim 49.

55. (Previously presented) A semiconductor device comprising a semiconductor layer formed by the crystal growth method of claim 42.

56. (Previously presented) A semiconductor device according to claim 55, wherein the semiconductor device is a light emitting element, and the semiconductor layer forms a light emitting layer thereof.

57. (Previously presented) A semiconductor device comprising a semiconductor layer formed by the crystal growth method of claim 43.

58. (Previously presented) A semiconductor device according to claim 29, wherein the semiconductor device is a light emitting element, and the semiconductor layer forms a light emitting layer thereof.

59. (Previously presented) A semiconductor device comprising a semiconductor layer formed by the crystal growth method of claim 44.

60. (Previously presented) A semiconductor device according to claim 59, wherein the semiconductor device is a light emitting element, and the semiconductor layer forms a light emitting layer thereof.

61. (Previously presented) A semiconductor device comprising a semiconductor layer formed by the crystal growth method of claim 45.

62. (Previously presented) A semiconductor device according to claim 61, wherein the semiconductor device is a light emitting element, and the semiconductor layer forms a light emitting layer thereof.

63-144. (Canceled)